REMARKS

Status of the Claims

Claims 1-121 - (Canceled)

Claims 122-177 – (New)

Telephone Interviews

During a September 21, 2005 telephone interview, Examiner Hirl and Applicant discussed two proposed claims. Examiner Hirl suggested amending the proposed claims to emphasize the use of multiple criteria for filtering and viewing decision alternatives. New independent claims 122, 132, 156, and 167 indicate clearly that multiple criteria are used to filter and view decision alternatives. New independent claims 143 and 150 indicate clearly that one-dimensional scatterplots, each of which is related to a different criterion, are displayed to allow a user to explore decision alternatives. Applicant respectfully submits that the proposed new claims conform to the Examiner's suggestions and patentably define the present invention.

During a January 11, 2006 telephone interview, Examiner Hirl and Applicant's representative discussed several proposed claims. Examiner Hirl suggested amending the claims to explain or indicate mathematically how decision alternatives are generated, filtered, and viewed according to the present invention. New independent claims 122, 132, 143, 150, 156, and 167 indicate clearly that decision alternatives D_1 - D_n may be filtered and/or viewed according to values for at least two criteria C_1 - C_n for each decision alternative D. During filtering, values for at least two criteria C_1 and C_2 for two decision alternatives D_a and D_b are compared and a decision D_b is removed from

the set if $C_1(D_a)$ is superior or equal to $C_1(D_b)$ and $C_2(D_a)$ is superior or equal to $C_2(D_b)$, and either $C_1(D_a)$ is superior to $C_1(D_b)$, or $C_2(D_a)$ is superior $C_2(D_b)$, wherein superiority for each criterion is determined according to whether larger values for C or smaller values for C are preferred.

Double Patenting

Claims 92-121 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-25, and 29-38 of U.S. Pat. No. 6,771,293. Claims 92-121 have been canceled and new claims 122-177 added. A terminal disclaimer for the present application was filed on November 12, 2004.

Claim Rejections under 35 U.S.C. § 101

Claims 92-101 have been rejected under 35 U.S.C. § 101 because the claimed invention is alleged to be directed to non-statutory subject matter. The Examiner has indicated the rejection will be withdrawn if the term "computerized" is appropriately inserted in the preamble of claim 92. The term "computerized" has been inserted in new claim 122 which is similar to canceled claim 92. Applicant respectfully requests that the Examiner withdraw the rejection.

Claims 92-121 have also been rejected under 35 U.S.C. § 101 because the claimed invention is alleged to lack patentable utility. The Examiner suggests that "decisions (exclusions) are made on the basis of inferior performance criteria" and provides an example in which no decision survives filtering because "inferior

performance dominates or has greater weight." The Examiner asserts that the disclosed methodology yields a null and therefore, has no utility.

The Examiner's remark that "inferior performance dominates or has greater weight" suggests that the Examiner believes weighting functions or ranking of criteria is in some way relevant to the present invention. However, the method of the present invention for making multiple criteria decisions and finding multiple objective optimal alternatives differs from prior art methods in that it does NOT "weigh" alternatives or using weighting functions of any kind, nor does it rank the criteria. Instead, the method of the present invention is based on bringing out and examining the tradeoffs according to multiple criteria selected by the decision maker.

Applicant respectfully submits that the proposed example simply does not follow the claim language and therefore, fails to consider how the invention as claimed operates. In the proposed example, the Examiner divides a set of decision alternatives into two sections of approximately equal size, finds a dominant decision in each section, compares attributes for the decisions from each section, and then concludes that because for each decision one attribute may be inferior and one attribute may be superior, both are excluded and there are no decision alternatives that survive.

Applicant respectfully submits that the example fails to consider how a decision alternative is actually excluded from a set of decision alternatives. In a case in which a first decision alternative has a first attribute that is inferior to the corresponding attribute of a second decision alternative and a second attribute that is superior to the corresponding attribute of the second decision alternative, both decisions survive and remain in the set. Independent claims 92, 102, and 112 (now canceled) indicate clearly

that only those decision alternatives that are inferior to any of the other decision alternatives with respect to the applicable **attributes** are excluded from the set of decision alternatives. The claim language stated clearly that a decision alternative is excluded from a set of decision alternatives if it is inferior to **any of the other decision alternatives** with respect to the **values of the criteria**. The claims indicated unequivocally that multiple values are considered when determining whether a decision alternative should be excluded and that a decision alternative must be inferior according to the **values of the criteria** to be excluded.

Applicant respectfully submits that the claims submitted previously have in all cases indicated very clearly that multiple attributes are considered during the filtering step. Inferiority with respect to a single attribute does not result in exclusion of the decision alternative as suggested by the Examiner. A decision alternative must be inferior according to all attributes to be excluded. Because multiple attributes are considered for the purpose of exclusion, the decision alternatives that are included (i.e., not excluded) are those decision alternatives that are trade-offs with respect to each other. They are superior to each other included alternative with respect to at least one attribute and inferior to each other included alternative with respect to at least one attribute. If only one decision alternative survives, it is superior to all other decision alternatives with respect to each attribute that is considered.

The Examiner's conclusion that exclusions made on the basis of inferior performance can result in a null set is erroneous. In fact, when decision alternatives are considered on the basis of multiple criteria, it is impossible for all of the decision alternatives to be excluded. At least one decision alternative must survive. If more than

one decision alternatives survives, the surviving decisions are trade-offs with respect to each other. Applicant respectfully requests that the present invention has utility in all cases. Furthermore, to demonstrate that the invention has no utility, the Examiner must demonstrate that there are never any alternatives that survive the filter. If alternatives survive filter in any case, the invention has utility.

Although Applicant disagrees with the Examiner's conclusion that the claim language can be interpreted to produce a null set, Applicant has submitted new claims that indicate clearly decision alternatives D_1 - D_n may be filtered and/or viewed according to values for at least two criteria C_1 - C_n for each decision alternative D and that during filtering, values for at least two criteria C_1 and C_2 for two decision alternatives D_a and D_b are compared and a decision D_b is removed from the set if $C_1(D_a)$ is superior or equal to $C_1(D_b)$ and $C_2(D_a)$ is superior or equal to $C_2(D_b)$, and either $C_1(D_a)$ is superior to $C_1(D_b)$, or $C_2(D_a)$ is superior $C_2(D_b)$, wherein superiority for a criterion is determined according to whether larger values for C or smaller values for C are preferred. Applicant respectfully submits that the new claims indicate clearly that superiority of decision alternatives in relation to values of multiple criteria C_1 and C_2 are considered during the filtering step and superiority depends upon whether larger or smaller values for C are preferred. For example, if one criterion relates to MPG for an automobile, a larger value is preferable or superior to a smaller value. An automobile that gets 30 MPG is preferable or superior to an automobile that gets 20 MPG. If another criterion relates to time to 60 MPH, a smaller value is preferable or superior to a larger value. An automobile that achieves 0 to 60 MPH in five seconds is preferable or superior to an automobile that achieves 0 to 60 MPH in eight seconds. Superiority with respect to

each criterion therefore, depends upon whether larger or smaller values are preferable for the criterion. In view of Applicant's amended claims, Applicant respectfully requests that the Examiner withdraw the § 101 rejection.

Claim Rejections under 35 U.S.C. § 112

The Examiner has further rejected claims 92-121 under 35 U.S.C. § 112 because current case law and the MPEP allegedly require such a rejection if a § 101 rejection has been given. Applicant has provided new claims 122-177 for the Examiner's consideration. Applicant further respectfully submits that the § 101 rejection is improper for the reasons cited above. Therefore, the § 112 rejection is improper. It is respectfully requested that the Examiner withdraw the § 112 rejection.

Responses to Arguments

In response to Applicant's arguments from the amendment filed July 19, 2005, the Examiner states that the arguments related to claims 92-121 have been considered but are not persuasive. With regard to the Amado reference, the Examiner states that Paragraph 13 applies. Paragraph 13 states that "[u]nless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement."

It is unclear whether this Paragraph 13 is intended to state that the Examiner's claim rejections are based on § 102(b) anticipation or § 103(a) obviousness. It is

assumed that the Examiner is maintaining the rejection of claims 92-121 under 35 U.S.C. § 102(b) as being anticipated by Amado. Applicant has canceled claims 92-121 and submitted new claims 122-171. In view of the new claims, Applicant respectfully traverses the rejections.

The Examiner states that limitations appearing in the specification but not recited in the claim are not read into the claim. Applicant respectfully submits the Examiner has failed to consider each claim in its entirety and that there are limitations in the independent claims that the Amado reference fails to teach. With respect to Applicant's statements that Amado does not relate to a system and method for exploring decision alternatives that have been filtered according to multiple criteria, the Examiner relies on a passage of Amado describing "rough sets." The passage is actually a description of prior art techniques. It includes the word "decision" and explains that decisions can be categorized based on information in attributes. The Examiner then states that "Amado's decisions involve multiple object (alternatives), each of which has a plurality of attributes where filtering is related to the domain of interest."

Applicant respectfully submits that contrary to the Examiner's assertion, Amado does not teach in this passage or any other passage that the "decisions" are filtered according to a "domain of interest." The passage from Amado that states only that decisions can be categorized. Neither this passage nor any other passage of Amado teaches any particular technique for categorizing decisions. More importantly, Amado does not teach that decisions are excluded from a set using a filter and that they are filtered by comparing them with each other according to at least two criteria as in the claimed invention. MPEP § 2131 requires that a reference teach every element of a

claim in order to anticipate the claim. With respect to new claims 122, 132, 156, and 167, Applicant respectfully submits Amado does not teach claim limitations related to filtering of decision alternatives by comparing them with each other according to at least two criteria and therefore, cannot support a rejection of the claims 122, 132, 156, and 167.

The Examiner further states that the classification or clustering of decisions represents a scatterplot. The Examiner also states that Para. 13 applies. Finally, the Examiner states that scatterplots are merely a clustering or classifying concept. Contrary to the Examiner's assertion, Applicant respectfully submits that Amado fails to teach or even suggest that decision alternatives may represented in one-dimensional scatterplots in which each scatterplot relates to a criterion as presented in new claims 143 and 150. Amado's passages related to clustering and classifying of data fail to teach display of multiple linked scatterplots to enable examination of evaluated decision alternatives as claimed. MPEP § 2131 requires that a reference teach every element of a claim in order to anticipate the claim. With respect to new claims 143 and 150, Applicant respectfully submits that Amado fails to teach the claim limitations related to the display of multiple linked scatterplots and therefore, cannot support a rejection of the claims 143 and 150.

The Examiner also states that the reference to double patenting applies. A terminal disclaimer has been submitted in a prior response and overcomes the double patenting rejection.

Finally, the Examiner states that the reference to 35 U.S.C. § 101 applies and that nothing will appear on the display. It is respectfully submitted that the claim

rejections under 35 U.S.C. § 101 are improper for the reasons cited above. It is respectfully submitted that at least one decision alternative will appear on the display. In most instances, many decision alternatives will appear so that they can be examined in the scatterplots. Therefore, the conclusion that nothing will appear on the display is incorrect.

Conclusion

Applicant respectfully submits that the claimed invention has utility and that Amado reference fails to each and every limitation of the claimed invention. In view of the foregoing claim amendments and accompanying remarks, the Applicant respectfully submits that the present application is properly in condition for allowance.

Respectfully submitted,

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